

Patent claims:

1. A protein preparation characterized by
 - at least 60% protein of plant origin, based on the dry weight,
 - a milk-like aroma which corresponds to an amount of at least 1 ppm of diacetyl, and
 - a content of lactic acid.
2. The protein preparation as claimed in claim 1, characterized by
 - at least 70% protein of plant origin, based on the dry weight,
 - a milk-like aroma which corresponds to an amount of at least 7 ppm of diacetyl, and
 - a content of at least 0.5% by weight of lactic acid.
3. The protein preparation as claimed in claim 2, characterized by
 - at least 85% protein of plant origin, based on the dry weight,
 - a milk-like aroma which corresponds to an amount of at least 15 ppm of diacetyl, and
 - a content of at least 1.0% by weight of lactic acid.
4. The protein preparation as claimed in one of the preceding claims, characterized in that the lactic acid is predominantly or exclusively L-lactic acid.
5. The protein preparation as claimed in one of the preceding claims, characterized in that it is lactose-free

and cholesterol-free.

6. The protein preparation as claimed in one of the preceding claims, characterized in that it comprises probiotic lactic acid bacteria.

7. The protein preparation as claimed in one of the preceding claims, characterized in that it is produced using legumes, in particular lupines, soybean and peas, and very particularly preferably lupine seeds.

8. The protein preparation as claimed in one of the preceding claims, characterized in that, in 10% strength solution at pH 7, it has an emulsifying activity of 40 to 50%, and/or in that, in 1% strength solution, it can emulsify at least 400 ml, preferably at least 500 ml, of oil/g of protein.

9. The protein preparation as claimed in one of the preceding claims, characterized in that, at a pH of 7, it has a foam activity of at least 600%, preferably greater than 950%, and/or a foam density of 190 to 250 g/l.

10. A method for producing a protein preparation, characterized in that plant starting material pretreated in a suitable manner having at least 60% by weight of plant protein, based on the dry weight of the material, is fermented in a manner known per se using a microorganism which produces lactic acid in the presence of one or more nutrient source(s), nitrogen source(s) and/or mineral source(s) necessary for the microorganism.

11. The method as claimed in claim 10, characterized in that the microorganism is selected from preferably homofermentative and potentially heterofermentative microorganisms, selected from lactococci, lactobacilli and pediococci.

12. The method as claimed in claim 11, characterized in that the microorganism is selected from *Lactobacillus perolens*, *Lactobacillus paracasei* and *Lactobacillus plantarum*.

13. The method as claimed in one of claims 10 to 12, characterized in that the fermentation is carried out using a solution or dispersion of the plant protein in a concentration of 5-25% dry matter, preferably 15 to 20% dry matter.

14. The method as claimed in one of claims 10 to 13, characterized in that the fermentation is performed in a medium to which citric acid has been added in an amount of 0.1 to 2.5 g/l, preferably of about 2 g/l.

15. The method as claimed in one of claims 10 to 14, characterized in that the fermentation is performed in the presence of a buffer which buffers the fall in pH due to the formation of lactic acid.

16. The protein preparation as claimed in one of claims 1 to 9, wherein the milk-like aroma was obtained by the biotechnological treatment of a predominantly or exclusively plant starting material.

17. The protein preparation as claimed in one of claims 1 to 9 obtained by a method as claimed in one of claims 10 to 15.

18. The use of a protein preparation as claimed in one of claims 1 to 9, 17 and 18 as food ingredient.

19. The use of a protein preparation as claimed in claim 6 as probiotic food.

20. The use of a protein preparation as claimed in claim 18 for producing ice cream.